

Europäisches Patentamt

European Patent Office

Office européen des brevets



(11) EP 1 065 725 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 19.05.2004 Bulletin 2004/21

(51) Int Cl.⁷: **H01L 27/15**, H01L 51/20, H01L 51/40, H01L 27/00

- (43) Date of publication A2: 03.01.2001 Bulletin 2001/01
- (21) Application number: 00113587.0
- (22) Date of filing: 27.06.2000
- (84) Designated Contracting States:

 AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU

 MC NL PT SE

 Designated Extension States:

 AL LT LV MK RO SI
- (30) Priority: 28.06.1999 JP 18259899
- (71) Applicant: SEL SEMICONDUCTOR ENERGY LABORATORY CO., LTD.
 Atsugi-shi, Kanagawa-ken 243-0036 (JP)
- (72) Inventors:
 - Yamazaki, Shunpei Atsugi-shi, Kanagawa-ken 243-0036 (JP)
 - Mizukami, Mayumi
 Atsugi-shi, Kanagawa-ken 243-0036 (JP)
 - Konuma, Toshimitsu
 Atsugi-shi, Kanagawa-ken 243-0036 (JP)
- (74) Representative: Grünecker, Kinkeldey, Stockmair & Schwanhäusser Anwaltssozietät Maximilianstrasse 58 80538 München (DE)
- (54) Method of manufacturing an electro-optical device
- (57) An object of the invention is to reduce the manufacturing cost of EL display devices and electronic devices incorporating the EL display devices.

An EL material is formed by printing in an active ma-

trix EL display device. Relief printing or screen printing may be used as the method of printing. Manufacturing steps of the EL layer is therefore simplified and reduction of manufacturing cost is devised.

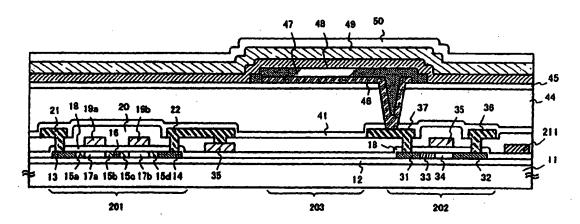


Fig. 2



EUROPEAN SEARCH REPORT

EP 00 11 3587

Category	Citation of document with	Relevant	CLASSIFICATION OF THE	
-alegory	of relevant pas	sages	to claim	APPLICATION (Int.CI.7)
X i	EP 0 901 174 A (SU	MITOMO CHEMICAL CO)	1,6,7,9.	H01L27/15
	10 March 1999 (1999			H01L51/20
	* page 10, paragra	ohs 72-74 *		
	* page 11, paragra	ohs 79-82 *		
<i>!</i>			8,12,15,	
			[16]	
,	US 5 821 003 A (KI	ALIDA HITDOVA ET AL \	8,15	
'	13 October 1998 (19		0,15	·
	* column 6, line 61			
K	EP 0 880 303 A (SE)		1-7,10	1
1	25 November 1998 (1		. [
	* page 10, line 52	-58 *]	
	* page 11, line 1-1	l8 * 10 ±	1	
	* page 13, line 10-	-17 + -10 ±		
	* page 14, line 17- * page 5, line 6-18	**		
	* page 6, line 11-1	3 *		
1	F-9,	-	12,16	·
				TECHNICAL FIELDS SEARCHED (Int.Ci.7)
P,X	EP 0 954 205 A (SON		1,6-9,	
	3 November 1999 (19 * page 3, paragraph		11,13-15	HOIL
	* page 4, paragraph		·]	l
1	* page 5, paragraph		'	
	* page 7, paragraph	51 *		
X	PATENT ABSTRACTS OF		1,6,7	
J	vol. 016, no. 084 (L-11/2),		
.	28 February 1992 (1			
	& JP 03 269995 A (F 2 December 1991 (19			
	* abstract *	16 VL)		
Ì	· -			
- {		-/	1 1	
	•	•	1 .	
			1	
			4	
	The present search report has	been drawn up for all claims		
	Place of search	Date of completion of the search		Examiner
_	THE HAGUE	3 March 2004	Faoi	ı, M
C	ATEGORY OF CITED DOCUMENTS		ole underlying the in	
X : parti	cularly relevant if taken alone	E : earlier patent d after the filing d	ate	ned on, or
Y : parti	cularly relevant if combined with and ment of the same category	ther D : document cited L : document cited	in the application	
A:tech	nological background -written disclosure		·····	COFFEE PORTING
	mediate document	a. memori di die	Percuitatini	, wasponding



EUROPEAN SEARCH REPORT

Application Number

Category	Citation of document with i	ndication, where appropriate, sages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
X	PATENT ABSTRACTS OF vol. 1998, no. 08, 30 June 1998 (1998- -& JP 10 077467 A (24 March 1998 (1998 * abstract * * figure 1 *	-06-30) SUMITOMO CHEM CO LTD)	1,6,7	
				TECHNICAL FIELDS SEARCHED (Int.CI.7)
	The present search report has Place of search THE HAGUE	been drawn up for all claims Date of completion of the search 3 March 2004	Fao	Examiner U., M
X : part Y : part docu A : tech	ATEGORY OF CITED DOCUMENTS icularly relevant if taken alone icularly relevant if combined with anounced of the same category inclogical background—written disclosure	E : earlier patent after the filing ther D : document cit L : document cit	ed in the application ed for other reasons	shed on, or

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 00 11 3587

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.

The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

03-03-2004

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 0901174	A	10-03-1999	EP JP US	0901174 11176576 6403236	A	10-03-1999 02-07-1999 11-06-2002
ÚS 5821003	Α .	13-10-1998	CA EP WO KR TW	2163010 0702075 9525149 246496 406199	A1 A1 B1	21-09-1995 20-03-1996 21-09-1995 01-04-2000 21-09-2000
EP 0880303	Å	25-11-1998	JP DE EP CN EP EP WO US US US US US	10153967 69727212 0880303 1212114 1211916 1376716 1376717 9824271 2003054186 2002155215 2001001050 2002136823 2002041926	D1 A1 A ,C A1 A2 A2 A1 A1 A1 A1	09-06-1998 19-02-2004 25-11-1998 24-03-1999 05-06-2002 02-01-2004 02-01-2004 04-06-1998 20-03-2003 24-10-2002 10-05-2001 26-09-2002 11-04-2002
EP 0954205	Α	03-11-1999	JP EP	11273859 0954205		08-10-1999 03-11-1999
JP 03269995	A	02-12-1991	NONE			
JP 10077467	Α	24-03-1998	NONE			
					`	

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82